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AN EVALUATION OF DEPARTMENT OF DEFENSE POLICIES FOR SUBCONTRACTOR QUALITY CONTROL

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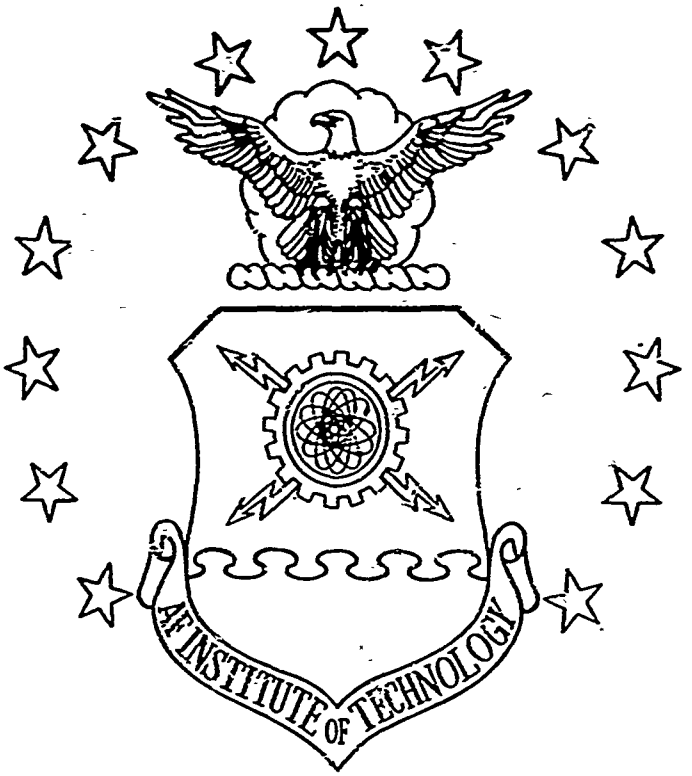
September 1972



UNITED STATES AIR FORCE

AIR UNIVERSITY

AIR FORCE INSTITUTE OF TECHNOLOGY

Wright-Patterson Air Force Base, Ohio

15

78

Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY (Corporate author)	2a. REPORT SECURITY CLASSIFICATION
Air Force Institute of Technology School of Systems and Logistics	2b. GROUP

3. REPORT TITLE

An Evaluation of Department of Defense Policies for Subcontractor Quality Control

4. DESCRIPTIVE NOTES (Type of report and inclusive dates)

Thesis

5. AUTHOR(S) (First name, middle initial, last name)

Jerome C. Dondlinger (Major, US ARmy)

6. REPORT DATE	7a. TOTAL NO. OF PAGES	7b. NO. OF REFS
20 / September 1972		

8a. CONTRACT OR GRANT NO.	9a. ORIGINATOR'S REPORT NUMBER(S)
b. PROJECT NO.	SLSR-34-72B
c.	9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)
d.	

10. DISTRIBUTION STATEMENT

Publish and distribute under Provisions of Statement A, unlimited distribution. (DDC, AFR 80-45)

11. SUPPLEMENTARY NOTES	12. SPONSORING MILITARY ACTIVITY
Cleared for public release IAW AFR 190-17.	JERRY C. HIX, Capt, USAF Director of Information

13. ABSTRACT

During the current period of time when emphasis within DoD procurement is on efficiency, subcontractor quality control procedures are being considered as a possible means of improvement. This document explores possible means of improving the efficiency of subcontractor quality control procedures on Government contracts. Through extensive questionnaire techniques, expert opinions of knowledgeable quality control personnel have been gathered and evaluated. Suggested ASPR changes are presented as a possible means of increasing the efficiency and effectiveness of subcontractor quality control.

KEY WORDS:

Quality Control

Subcontractor Quality Control

-1a-

DD FORM 1 NOV 65 1473

Security Classification

AN EVALUATION OF DEPARTMENT OF DEFENSE POLICIES FOR SUBCONTRACTOR QUALITY CONTROL

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SLSR-34-72

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SLSR-34-72B

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A Thesis

Presented to the Faculty of the School of Systems and Logistics

of the Air Force Institute of Technology

Air University

In Partial Fulfillment of the Requirements for the

Degree of Master of Science in Logistics Management

By

Jerome C. Dondlinger, B.A.
Major, US ARMY

September 1972

This thesis, written by

Major Jerome C. Dondlinger

and approved in an oral examination, has been accepted by the undersigned on behalf of the faculty of the School of Systems and Logistics in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN LOGISTICS MANAGEMENT

Date: 15 September 1972

Committee Chairman

PREFACE

Increased emphasis on DoD procurement effectiveness and efficiency has resulted in widespread interest in improved techniques. The procedures used to insure effective quality control by subcontractors on Government contracts is one of the areas of procurement efficiency that has been questioned.

This thesis addresses the question of subcontractor quality control, determines the level of satisfaction with the current system that exists, and attempts to present improved techniques that will increase the efficiency of subcontractor quality control.

ACKNOWLEDGMENTS

For suggestions, ideas, and responses to the questionnaires, I am indebted to DoD and commercial quality control personnel throughout the country. Their constructive efforts to assist me are greatly appreciated.

Special acknowledgment is given to Mrs. Joyce Clark for her administrative assistance in preparation of this thesis and to Mrs. Phyllis Sears and Mrs. Sandra Bartley for their advice and assistance throughout the preparation of this thesis.

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During the current period of time when considerable emphasis is being directed toward increasing the efficiency of Government procurement, one aspect of procurement procedures is not being efficiently accomplished. A serious gap exists in Department of Defense (DoD) procurement policy in the area of contract quality assurance administration in the subcontractor plant. Due to the absence of a specifically defined contractual relationship between DoD and the subcontractor, a clearly defined means of insuring that acceptable levels of quality control are maintained by the subcontractor has not been developed. Although it has been a generally accepted policy of the DoD that the prime contractor is responsible for insuring the adequacy and acceptability of the subcontractor quality control program, detailed procedures for DoD monitorship of the program have not been established. The DoD has retained certain rights in regard to inspection of products at the subcontractor plant but a lack of uniformity of application of these retained rights has resulted in confusion and inefficiency.

CHAPTER I

PROBLEM

Problem Statement

During the current period of time when considerable emphasis is being directed toward increasing the efficiency of Government procurement, one aspect of procurement procedures is not being efficiently accomplished. A serious gap exists in Department of Defense (DoD) procurement policy in the area of contract quality assurance administration in the subcontractor plant. Due to the absence of a specifically defined contractual relationship between DoD and the subcontractor, a clearly defined means of insuring that acceptable levels of quality control are maintained by the subcontractor has not been developed. Although it has been a generally accepted policy of the DoD that the prime contractor is responsible for insuring the adequacy and acceptability of the subcontractor quality control program, detailed procedures for DoD monitorship of the program have not been established. The DoD has retained certain rights in regard to inspection of products at the subcontractor plant but a lack of uniformity of application of these retained rights has resulted in confusion and inefficiency.

The only official recourse available to the DoD in the event of unacceptable quality performance on the part of the subcontractor is through the prime contractor. This procedure is time consuming and inefficient.

Background

The Armed Services Procurement Regulation (ASPR) establishes the basic policies to be followed by all DoD procurement personnel. The ASPR establishes the types of contract quality requirements that may be included in contracts by Contracting Officers as follows:

> Types of Contract Quality Requirements. There are five basic categories of contract coverage for assuring conformance of products or services to contract requirements; (a) not including any specific quality requirements in the contract, in which case the Government does not perform any procurement quality assurance actions at source, but instead relies on the contractor's internal control to obtain the supplies or services specified in the contract; (b) contractor responsibility provisions (14.101.1); (c) standard inspection requirement (14.101.2); (d) MIL-I-45208 Inspection System Requirement (14.101.3); and, (e) MIL-Q-9858 Quality Program Requirement (14.101.4).
>
> (1:1401)

These basic policies allow the Contracting Officer considerable leeway in his decision of what requirements to impose, MIL-I-45208, Inspection System Requirement, and MIL-Q-9858, Quality Program Requirement, are the two systems that are normally imposed on complex contracts. Contracts of sufficient complexity to result in extensive subcontractor/prime contractor relationships can be reasonably expected to have one of these two types of contract quality requirements assigned. MIL-Q-9858 requires the contractor to prepare an extensive

written program that covers all aspects of his quality control program. MIL-I-45208 requires the contractor to prepare written inspection plans to cover all aspects of his quality control inspection system.

Once either MIL-I-45208 or MIL-Q-9858 has been established as the quality requirement in a contract, the cognizant contract administration office must give consideration to the type of quality program that is to be implemented. Some basic procedural guidelines have been established by the ASPR for quality assurance program implementation at subcontractor plant level. These guidelines are very general in nature and do not list firm procedures that must be followed. The following quotes are indicative of the guidance that is provided.

> 14.103.1 Subcontracts. Government procurement quality assurance at subcontractor's plants shall be performed only when necessary to assist the contract administration office cognizant at the prime contractor's plant. . . . (1:1403)

> 14.305.2 Government Procurement Quality Assurance at Source.
>
> (c) Where the contract provides for the performance of Government procurement quality assurance actions at source, these actions shall be taken at such times and places (including any stage in the manufacturing process at both the contractor's and his subcontractor's plants) as may be necessary to determine conformance to contract requirements. . . . (1:1408)

These guidelines indicate that the basic policy of the DoD is that the prime contractor is to be held responsible for assurance of quality performance by his subcontractors. This is in agreement with current actions being accomplished by operating field personnel.

There are certain instances when Government representatives

directly review the quality control program of subcontractors, however, these instances must be in accordance with the following ASPR provisions:

> 14.407 Government Procurement Quality Assurance Actions at Subcontract Level.
>
> 14.407.1 General. Government procurement quality assurance actions at the subcontract level do not relieve the contractor of any of his responsibility under the contract and do not establish any contractual relationship between the Government and the subcontractor. . . .
>
> 14.407.2 Conditions. Government procurement quality assurance actions at the subcontract level shall be performed when:
>
> (i) the item is to be shipped from the subcontractor's plant to the using activity;
>
> . . . . . .
>
> (iii) the contract specifies that certain inspection is to be made by the Government, and such inspection can be performed only at the subcontractor's plant. (1:1416)

Of particular significance is the fact that no contractual relationship exists between the Government and the subcontractor even though the inspection is conducted in the subcontractor plant.

If MIL-I-45208 is established in a contract, the requirements for subcontractor quality requirements and the Government's relationship with the prime contractor and the subcontractor are clearly established as follows:

> 3.11 Government Inspection at Subcontractor or Vendor Facilities. The Government reserves the right to inspect at source supplies or services not manufactured or performed within the contractor's facility. Government inspection shall not constitute acceptance; nor shall it in any way replace contractor inspection or otherwise relieve the contractor of his responsibility to furnish an acceptable end item. When inspection at subcontractor's plants is performed by the Government,

> such inspection shall not be used by contractors as evidence of effective inspection by subcontractors. The purpose of this inspection is to assist the Government representative at the contractor's facility to determine the conformance of supplies or services with contract requirements. Such inspection can only be requested by or under authorization of the Government representative. (3:4)

The procedures to be used by the Government Quality Assurance Representative (QAR) in his evaluation of the prime contractor's Quality Inspection System are clearly established by DoD Handbook H-51, Evaluation of a Contractor's Inspection System. This Handbook provides the QAR with specific guidance on the evaluation of a contractor's system in all areas except subcontractor control. The guidance given in this vital area is limited and very general. (5:17)

Although the paragraph numbers are changed, MIL-Q-9858 paragraph 7.1 is nearly a word for word quote of paragraph 3.11 of MIL-I-45208. The requirements placed on the contractor are identical in all aspects between the two requirements. (4:6)

The criteria for evaluation of this part of the prime contractor's quality program are identical between DoD Handbook H-51 and DoD Handbook H-50, Evaluation of a Contractor's Quality Program. (6:33)

The principle operating instruction available to Defense Contract Administration Services (DCAS) quality assurance personnel is DoD Handbook H-57, Procurement Quality Assurance. This document is the official procedural listing of the proper method to establish and operate a Quality Assurance Program within any DoD contractor plant.

Paragraph 4.101 of DoD Handbook H-57 reads in part as follows:

> Controlling the quality of purchased supplies is the contractor's responsibility. . . . The overall Government objective is to decrease procurement quality assurance actions at subcontractor facilities to a minimum consistent with evidenced control on the part of the contractor. (7:43)

The conditions which must be present in order for a prime contractor plant Government Representative to request quality assurance effort at subcontractor plant level are stringent and specific. There are no provisions within DoD Handbook H-57 that allow for implementation of a complete quality assurance program at a subcontractor plant, only very limited inspections of product or services may be accomplished. (7:44-46)

Official policies of the United States Air Force and the United States Army are consistent with DoD policies as stated above. Emphasis in all policies is on prime contractor control of all aspects of subcontractor quality control programs with Government inspection and quality assurance at the subcontractor plant being minimized as much as possible. Personal interviews with knowledgeable DoD quality assurance personnel reflected that the current procedure may not be the most effective procedure that could be utilized by the DoD. (14), (15), (16), (17), (18)

Views expressed during these interviews and the fact that a Joint Commander's Panel on Contract Administration considered the problem of subcontractor quality control during their meeting in March,

1971, indicates that a solution to this problem is needed.

Scope

This study was primarily concerned with large DoD contracts where one or more subcontractors provide a significant portion of the supplies or services obtained. It was limited to United States Air Force, United States Army, and Defense Contract Administration Services operational level organizational units and does not reflect Major Command coordinated positions or opinions. DoD personnel from the above organizations were selected for participation in this study based on duty assignment only. Commercial firms selected for participation were selected on the basis of a judgment sample of those firms that have a gross income of over two million dollars annually and regularly rely on the DoD for between 30% and 70% of their annual sales. Current ASPR provisions and questions of privity of contract between the Government and subcontractors were not considered to be constraints in the development of this study. The possibility of increased costs for contractual performance or increased personnel requirements was not addressed.

CHAPTER II

OBJECTIVES AND HYPOTHESES

Objectives

The objectives of this thesis were to examine in detail current procedures utilized by the DoD and commercial firms to insure effective quality control by subcontractors and to determine if these procedures were effective. Comparisons of DoD and commercial firm practices were made and a recommendation for improvement of the DoD system was made. Determination of the most effective procedure that could be utilized by the DoD in their quality control program for subcontractors was the ultimate objective of this thesis.

Hypotheses

The following hypotheses were tested as a means of meeting the objectives stated above:

1. Current DoD policies concerning subcontractor quality control are not considered timely and effective by Government quality assurance personnel.

2. Commercial firms have developed effective subcontractor quality control procedures.

3. Modification of current DoD policies by incorporation of more stringent subcontractor quality control requirements will increase the effectiveness of the Government quality assurance program.

CHAPTER III

METHODOLOGY

Nature and Sources of Data: General

The data used in testing of the hypotheses of this study was obtained through the use of questionnaires and personal interviews with knowledgeable quality control/assurance personnel. All interviews and questionnaires were structured in a manner that protected the individual respondent from being identified unless they specifically desired to provide their names as references. All data collection efforts were directed toward obtaining personal opinions of the individual concerned rather than a reflection of the policies of the command/firm with which the individual is associated.

DoD Personnel Data Collection

Initial collection of personal opinions of DoD quality control or quality assurance personnel was accomplished through the use of a structured questionnaire which is included as Appendix A. If respondents to this initial questionnaire expressed an interest in detailed development of their ideas, the author contacted these individuals on a personal basis to insure inclusion in this study of all feasible

suggestions.

Determination of which personnel would be selected for receipt of the initial questionnaire was accomplished by selecting certain DoD duty positions that were felt to be representative of the entire DoD procurement structure. The representative sample selected consisted of the Directors/Chiefs of quality control elements of the USAF Air Materiel Areas and Air Force Plant Representative Offices, Major subordinate Commands of the US Army Materiel Command, US Army Project Offices, and Defense Contract Administration Services Districts. Due to the magnitude of the entire DoD procurement effort, questioning of all DoD agency elements would have generated data of such magnitude that a meaningful analysis of the data would have been extremely difficult.

It should be noted that the sample of DoD personnel selected is a judgment sample selected by the author and is designed to reach the lower levels of command rather than the headquarters of the policy making organizations. The reason this type of sample was selected was to reach those personnel who have a working knowledge of quality operations at the contractor plant level rather than those personnel who are concerned with development and implementation of policies. This decision was made by the author in order to facilitate the development of all feasible suggestions that were received regardless of the policy implications of the suggestion. It was felt that the personnel assigned

to the policy-making headquarters would be reluctant to express opinions that would conflict with command policy.

Any individual who indicated on his questionnaire that he had ideas of a pertinent nature that he felt would contribute to this study were contacted by the author and detailed development of his suggestions was accomplished. All suggestions received were explored and considered by the author. Specific names of individuals expressing suggestions and ideas are deliberately excluded from all references throughout this thesis.

Commercial Firm Data Collection

Those commercial firms to participate in this research effort were selected from a listing of those firms that met the criteria established earlier in this study. The sample selected consisted of a judgment sample that is designed to include firms that produce a variety of DoD procured items. Initial contact with the firms selected was accomplished by the author on a personal basis. This initial contact with quality control personnel was accomplished through personal acquaintances of the author who are active members of the American Society for Quality Control. This technique provided a reasonable assurance of valid response to the questionnaire when it was received in the firm. The use of the questionnaire included as Appendix B to obtain responses of the selected firms provided a representative sampling of the opinions of quality control personnel of firms actively

engaged in production under DoD contracts. Bureau of the Budget policies limited the number of firms that could be queried to nine.

Data Analysis: General

The data collection techniques stated above resulted in three groups of data that were analyzed separately. The three groups are: DoD personnel data, commercial firm data, and qualitative data obtained through follow-up contact with all personnel who express the desire to discuss their ideas with me in more detail. These three groups of data were used to test the stated hypotheses of this thesis.

The first group of data was used to statistically test the validity of the first hypothesis. The second group of data was used to qualitatively test the second hypothesis. The third group of data was used to test the third hypothesis and to develop proposed regulation changes.

Quantitative Test of Hypothesis #1

"Current DoD policies concerning subcontractor quality control are not considered timely and effective by Government quality assurance personnel."

For purpose of analysis, answers to questions 2, 3, 4, 5, 6, and 7 of the DoD personnel questionnaire have been assigned selective weights as follows:

TABLE 1

WEIGHT ASSIGNED TO RESPONSES--DOD

Question	Response	Degree of Satisfaction with Current System
2.	Unsatisfactory Quality	Uns
	Marginal Quality	Marg
	Satisfactory Quality	Sat
3.	No	Uns
	Marginal	Marg
	Yes	Sat
4.	Yes	Uns
	Yes (With modification)	Marg
	No	Sat
5.	PVI and/or CDV	Marg
	PR and/or PE and/or CA	Uns
	No change	Sat
6.	Method D	Uns
	Method C and/or B	Sat
	Method A or no response	Marg
7.	Yes	Uns
	Yes (With modification)	Marg
	No	Sat

When the initial questionnaires were sent to DoD personnel, they were assigned a number that allowed the returned data to be grouped into three categories. These categories were used to measure any difference of opinion between personnel in the following three categories:

Category 1; DCAS Personnel

Category 2; USAF Offices

Category 3; US Army Offices

The validity of Hypothesis #1 was determined by a sample computation of percentages.

Qualitative Test of Hypothesis #2

"Commercial firms have developed effective subcontractor quality control procedures."

The questionnaire that was sent to commercial firms was structured in a manner that provided maximum subjectivity in the responses that were obtained. Evaluation of the comment portions of each of the questions was the primary means of testing the hypothesis. The responses provided an insight into current commercial practices that have been developed that are not included in current DoD practices. Due to the limited number of these questionnaires that may be used, it was not felt that an acceptable statistical test could be used.

Qualitative Test of Hypothesis #3

"Modification of current DoD policies by incorporation of more stringent subcontractor quality control requirements will increase the effectiveness of the Government quality assurance program."

All available information from all questionnaires as well as follow-up interviews were utilized to test this hypothesis. It is felt by the author that the expert opinions of approximately 85 quality control or quality assurance personnel was sufficient to accomplish this test. The ultimate decision as to the validity of this hypothesis was based on

an evaluation of these expert opinions by the author.

Combination of the expert opinions available into proposed regulation changes was accomplished by the author. Presentation of these changes as the final chapter of the thesis meets the ultimate goal of the thesis project.

CHAPTER IV

GOVERNMENT DATA ANALYSIS

General

As a means of gathering the necessary data to affirm or deny Hypothesis #1, the questionnaire enclosed as Appendix A to this thesis was sent to knowledgeable DoD quality personnel. These questionnaires were mailed to 108 personnel by position title as follows:

1. Chiefs, Quality Assurance, Defense Contract Administration Services Districts and Offices: 43 each.

2. Chiefs, Quality Control, US Army Procurement Offices and Project Offices: 37 each.

3. Chiefs, Quality Control, US Air Force Air Materiel Areas and Air Force Plant Representative Offices: 28 each.

Completed questionnaires were returned to the author as follows:

1. DCAS personnel: 33 of 43 were returned in a completed state. This constituted a 76.7% return.

2. US Army personnel: 26 of 37 were returned in a completed state. This constituted a 70.3% return.

3. US Air Force personnel: 20 of 28 were returned in a

completed state. This constituted a 71.4% return.

4. Of the 108 questionnaires that were mailed, 79 were returned for a total response rate of 73.1%.

In addition to the above response rate, the author received letter responses in lieu of completed questionnaires in four instances. Analysis of the information included in these letters as well as comments made on completed questionnaires in 46 cases are included in Chapter VI of this thesis.

Question-by-Question Analysis

Question #1: This question was designed to determine years of experience in the field of quality control/assurance of the respondees. Of the 79 respondees, only four indicated that they had less than 10 years of experience in the quality control/assurance field. This experience level is considered by the author to be sufficient to lend credibility to the responses received.

Question #2 restated: "I believe that total prime contractor control of subcontractor quality programs provides DoD with:

____ Unsatisfactory Quality

____ Marginal Quality

____ Satisfactory Quality"

Total prime contractor control of subcontractor quality programs has been established to be in accordance with current DoD policy in Chapter I. A response of Unsatisfactory Quality was considered to

indicate dissatisfaction with current policies, a response of Marginal Quality was considered to indicate some dissatisfaction with current policies, and a response of Satisfactory Quality was considered to indicate satisfaction with current policies. Table 2 below indicates the responses received on this question:

TABLE 2

SATISFACTION WITH SUBCONTRACTOR QUALITY

Element	#	Dissatisfaction	%	Some Dissatisfaction	%	Satisfied	%
DCAS	33	1	3	21	64	11	33
US Army	26	0	0	15	57	11	43
USAF	20	1	4	14	61	5	25
Totals	79	2	3	50	63	27	34

Responses received on this question do not indicate a large variance based on the service element responding. Of particular significance is the 63% total response rate that indicates some dissatisfaction with current quality of products received. The specific reasons for this high rate of dissatisfaction are discussed in Chapter VI.

Question #3 restated: "I believe that DoD Handbooks H-50, H-51, and H-57 (or comparable service documents) used in conjunction with applicable contract quality requirements provide the necessary

tools for DoD personnel to insure adequate quality of products and/or services accepted from prime contractors:

____ No

____ Marginal

____ Yes"

It has been established by the author in Chapter I that the use of these documents by DCAS personnel is mandatory. Other services are encouraged to use them in their own operations and a delegation of quality assurance responsibility for contract administration to DCAS by a service agency requires their use. A response of No was considered to indicate dissatisfaction with current policies, a response of Marginal was considered to indicate some dissatisfaction with current policies, and a response of Yes was considered to indicate satisfaction with current policies. Table 3 below indicates the responses received on this question.

TABLE 3

SATISFACTION WITH CURRENT HANDBOOKS

Element	#	Dissatisfaction	%	Some Dissatisfaction	%	Satisfied	%
DCAS	33	0	0	13	39	20	60
US Army	26	0	0	11	42	15	58
USAF	20	4	20	7	35	9	45
Totals	79	4	5	31	40	44	56

Responses received on this question indicate that there is a higher percentage of dissatisfaction among US Air Force personnel with the provisions of these Handbooks than among other personnel. Of the four US Air Force respondees who felt these Handbooks were unacceptable, three indicated by comment that their dissatisfaction was primarily a result of inadequate instructions pertaining to requirements of Purchase/Delivery Orders. A rate of 45% dissatisfaction with currently authorized and required Handbooks indicates a cause for concern. Specific recommendations for improvement are included in Chapter VII.

Question #4 restated: "I would like to see a policy established that would allow DoD personnel to take positive action directly with a subcontractor to insure that his quality control program is effective:

____ No

____ Yes

____ Yes (Modified as below)

My suggested modification is: _____"

Current DoD policy as verified in Chapter I is that actions by DoD representatives at a subcontractor plant will be accomplished only to assist the QAR at the prime contractor plant and that the prime contractor is responsible for insuring the adequacy of the quality control program at the subcontractor plant. A response of Yes to this question was considered to indicate dissatisfaction with current policies, a response of No was considered to indicate satisfaction with current

policies, and a response of Yes (Modified as below) was evaluated by the author as indicating dissatisfaction, some dissatisfaction, or satisfaction depending on the modification suggested. Table 4 below indicates the responses received on this question.

TABLE 4

DIRECT ACTION WITH SUBCONTRACTORS

Element	#	Dissatisfaction	%	Some Dissatisfaction	%	Satisfied	%
DCAS	33	6	18	16	49	11	33
US Army	26	2	8	16	61	8	31
USAF	20	2	10	8	40	10	50
Totals	79	10	13	40	51	29	36

The 50% satisfaction rate with current policies reflected by US Air Force personnel is in accordance with a feeling that seemed to exist throughout their comments on the questionnaire. A general feeling that DoD should hold the prime contractor totally responsible for all aspects of subcontractor quality appeared to prevail. The 64% dissatisfaction rate indicated above was primarily due to the inherent time delay that exists when actions must be accomplished through the prime contractor as current policy dictates.

Question #5 restated: "I believe that DoD quality personnel would be more effective in their duties if they could accomplish the

following at a subcontractor plant:

____ Procedures Review

____ Procedures Evaluation

____ Product Verification Inspection

____ Contractor Decision Verification

____ Corrective Action

____ The prime contractor should be totally responsible.

____ A modified procedure should be established.

My suggested modification is: _____"

Current policies concerning this area allow for Procedures Review, Procedures Evaluation, Product Verification Inspection, and Corrective Action to be conducted at a subcontractor plant if properly delegated by the cognizant prime contractor QAR. This answer was considered to indicate satisfaction with current policy. Contractor Decision Verification is a specific procedure requiring periodic, continuing visits to the plant, and would require a complete Procurement Quality Assurance Program (PQAP) to exist in the plant if it were to be applied. This answer would indicate dissatisfaction with current policies as would the answer that the prime contractor should be totally responsible. If a modified procedure was suggested, evaluation as to dissatisfaction, some dissatisfaction, or satisfaction was accomplished by the author based on the procedure suggested. Table 5 below indicates the responses received on this question.

TABLE 5

PQAP APPLICATION

Element	#	Dissatisfaction	%	Some Dissatisfaction	%	Satisfied	%
DCAS	33	1	3	11	33	21	64
US Army	26	1	4	10	40	15	56
USAF	20	3	15	9	45	8	40
Totals	79	5	6	30	38	44	56

Although there is not a great difference between the responses of the service elements, once again the dissatisfaction rate is high. Of the 35 individuals who expressed some degree of dissatisfaction, seven felt that more extensive PQAPs should be applied, and 28 felt that only Product Verification Inspection action should be taken at the subcontractor plant, and that this inspection should not include government acceptance of the product. These 28 respondees felt that other PQAP applications should occur only at the prime contractor plant.

Question #6 restated: "Corrective Action by DoD Personnel at a subcontractor plant should be allowed as follows:

____ Method A

____ Method B

____ Method C

____ Method D"

Under current policies, Method A: Verbal word to the worker,

Method B: Written word to inspection, and Method C: Written requirement to Quality Control requiring a response, all can be accomplished at a subcontractor plant. A response indicating that these three should be allowed was considered to indicate satisfaction with the current policy. A response of less than these three was considered to indicate some dissatisfaction with the current policy. A response indicating Method D: Show cause why withdrawal of inspection and acceptance from the plant should not occur, was considered to be a major departure from current policy and was considered to indicate dissatisfaction with current policy. In addition to the above, no response at all was considered to indicate dissatisfaction with current policies. Table 6 below indicates the responses received on this question.

TABLE 6

CORRECTIVE ACTION

Element	#	Dissatisfaction	%	Some Dissatisfaction	%	Satisfied	%
DCAS	33	5	15	21	64	7	21
US Army	26	1	4	10	40	15	56
USAF	20	3	15	9	45	8	40
Totals	79	9	11	40	51	30	38

The large percentage of respondees expressing dissatisfaction with this procedure can be attributed to two separate and distinct

feelings. There are some personnel of each service who feel that Corrective Action of all kinds should be taken through the prime contractor only, and there are some personnel of each service who feel that Method D Corrective Action is appropriate at subcontractor plant level. As in Question #4, the time delay involved for coordinated Corrective Action between the prime contractor and the subcontractor appeared to be a major factor.

Question #7 restated: "I would like to see a policy established by the DoD that would allow DoD personnel to cease acceptance of products from prime contractors solely because one of their subcontractors did not have an effective quality control program:

____ No

____ Yes

____ Yes (With modification)

My suggested modification is: _____"

A No answer was considered to be indicative of acceptance of current policies of acceptance and satisfaction with these policies. A Yes answer was considered to be a major departure from current policy and indicative of dissatisfaction. Yes (With modification) answers were evaluated by the author and were classified according to satisfaction level based on the suggested modification. Table 7 below indicates the responses received on this question.

TABLE 7

ACCEPTANCE CRITERIA

Element	#	Dissatisfaction	%	Some Dissatisfaction	%	Satisfied	%
DCAS	33	6	18	15	45	12	37
US Army	26	1	4	16	61	9	35
USAF	20	1	5	13	65	6	30
Totals	79	8	10	44	57	27	33

The large number of respondees who expressed some dissatisfaction with current policies based their feelings on the fact that current policies make it extremely difficult to reject an end item of equipment presented for acceptance by the prime contractor regardless of the status of the subcontractor. This is true primarily because of the time delay that occurs if rejection is accomplished. A definite feeling exists that Purchasing Contracting Officers are entirely too lenient in their granting of waivers for nonconforming material in order to meet delivery dates. The high number of DCAS respondees who expressed dissatisfaction with current policies reflects a feeling that exists among DCAS personnel that a total PQAP is an efficient technique. Their desire to emphasize program implementation over hardware acceptability was obvious to the author in their comments.

Question #8: This question requested that respondees furnish

their name, title, and telephone number if they desired to discuss the subject of subcontractor quality control in more detail with the author. Twenty-nine respondees expressed their desire to do this. Evaluation of comments and suggestions is included in Chapter VI.

Consolidated Analysis

Table 8 presents a consolidated picture of the responses received on questions 2 through 7 of the questionnaire. The computation of percentages of respondees Satisfied, Dissatisfied, and Some Dissatisfied are based on equal weights being assigned to each question of the questionnaire. A satisfaction rate of 42% does not provide sufficient quantitative basis for rejection of Hypothesis #1 "Current DoD policies concerning subcontractor quality control are not considered timely and effective by Government quality assurance personnel."

TABLE 8

CONSOLIDATED RESPONSES (2-7)

Element	#	Dissatisfaction	%	Some Dissatisfaction	%	Satisfied	%
#2							
DCAS	33	1	3	21	64	11	33
US Army	26	0	0	15	57	11	43
USAF	20	1	4	14	61	5	25
#3							
DCAS	33	0	0	13	39	20	60
US Army	26	0	0	11	42	15	58
USAF	20	4	20	7	35	9	45
#4							
DCAS	33	6	18	16	49	11	33
US Army	26	2	8	16	61	8	31
USAF	20	2	10	8	40	10	50
#5							
DCAS	33	1	3	11	33	21	64
US Army	26	1	4	10	40	15	56
USAF	20	3	15	9	45	8	40
#6							
DCAS	33	5	15	21	64	7	21
US Army	26	1	4	10	40	15	56
USAF	20	3	15	9	45	8	40
#7							
DCAS	33	6	18	15	45	12	37
US Army	26	1	4	16	61	9	35
USAF	20	1	5	13	65	6	30
Totals	474	38	8	235	50	201	42

CHAPTER V

COMMERCIAL DATA ANALYSIS

General

Included as Appendix B is the questionnaire that was sent to nine Directors of Quality Control of commercial firms that were selected based on the criteria established in Chapter I. Of the nine questionnaires that were mailed, six responses were received. In addition to the questionnaires, an official position paper of the Aerospace Industries Association of America, Inc. (AIA) was obtained as a means of further evaluation of industry reaction to MIL-STD-CCC(USAF).

Qualitative Questionnaire Analysis

Question #1 restated: "Current Government policies that place total responsibility on prime contractors for subcontractor quality control are:

____ Unfair

____ Fair only if the Government representative is cooperative

____ Fair"

Respondees unanimously agreed that this procedure was fair. Comments were made in two cases that indicated all Government

personnel do not follow this policy. Confusion as to responsibility and criteria existed when Government personnel interjected themselves into the quality effort by attempting to dictate quality program requirements at subcontractor plants that were beyond the criteria established in the prime contract.

Question #2 restated: "My firm's quality effort as pertains to subcontractors on commercial procurements as opposed to Government procurements is:

____ Less extensive

____ About the same

____ More extensive"

All respondees agreed that there was no major difference between commercial and Government procurements when subcontractor quality control was considered. Two respondees did comment that there was more uniformity involved in commercial purchasing procedure due to the absence of prime contract quality control requirement clauses.

Question #3 restated: "Government requirements for quality control of subcontractors under the provisions of MIL-I-45208 and MIL-Q-9858 are:

____ Too restrictive

____ About right

____ Unclear (not restrictive enough)"

All respondees agreed that the written requirements were about

right. Actual application of the written requirements was considered by three respondees to be defective. Lack of uniformity of application by Government personnel had presented minor problems in their firms. Interpretation of the requirements had varied between Government personnel.

Question #4 restated: "The presence of Government Representatives in subcontractor plants in an advisory capacity to the Prime contractor would affect the contractor's quality effort by:

____ Hampering it

____ Not affecting it

____ Assisting it "

Respondees were equally divided in their selection of the three responses. The only conclusion that can be drawn from this response is that personal opinions on the subject vary considerably. The author feels that previous experience with Government personnel operating unofficially in this capacity affected the respondee's opinions on this subject.

Question #5 restated: "The presence of Government representatives in subcontractor plants with the authority to take the same corrective action that they are authorized in the prime contractor plant would affect the prime contractor's quality effort by:

____ Hampering it

____ Not affecting it

____ Assisting it"

All respondees agreed that further clarification of subcontractor legal relationships with the Government would be required if this were allowed. In recognition of the fact that the most severe of all possible corrective action is the withdrawal of acceptance of product, a specific definition of the Government's acceptance or rejection rights would be required. Additionally, a specific determination of the prime contractor's responsibility for subcontractor quality performance would be required. If acceptance is at the subcontractor plant, the procedure can be utilized if delegated, but further clarification of relationships would be necessary if acceptance were at any other location.

Question #6 restated: "Development of a procedure that would place the Government in a legal position to accept or reject the quality aspects of subcontractor produced items at the subcontractor plant prior to shipment to the prime contractor facility would be:

____ Useful

____ Marginally acceptable

____ Infeasible"

Respondees agreed that the procedure would be very useful to them if it could be adopted. Unfortunately, the technical problems of definition of rights and responsibilities would probably preclude adoption. The question of transfer of ownership upon acceptance by the Government would be difficult to resolve and claims and appeals would probably result.

Question #7 restated: "Implementation of the following policies by the Government on their contracts would enhance the over-all effectiveness of the quality control effort on subcontracts and would be of benefit to both the prime contractor and the Government in terms of improved quality of products:

1. The Government should not impose any requirements on prime contractors as concerned with subcontractor quality control."

This first suggested policy was rejected by all respondees indicating that they desired some form of direction from the Government concerning quality requirements.

2. "The prime contractor should be allowed to impose any quality requirement on a subcontractor that they desire without Government restriction."

Respondees showed a mixed reaction to this proposal. All respondees felt that a minimum requirement should be required by the Government. Three respondees also felt that the prime contractor should not be restricted from applying more stringent controls.

3. "Subcontractors should be held responsible for the quality of their products by the Government. The prime contractor should not be responsible."

All respondees agreed that this policy was not desirable or acceptable. Contractors prefer to be given a specific requirement and then be allowed to meet that requirement without interference.

4. "In view of the fact that the Government approves subcontractors prior to the award of the prime contract, Government inspection and acceptance should be at the subcontractor plant."

One respondee felt that this policy should be advocated and used as much as possible in order to reduce transhipment and the possibility of intransit damage. All other respondees felt that this policy should not be utilized unless absolutely necessary.

5. "The quality control program of the subcontractor should be monitored by Government personnel on a continuous basis, but change requirements, improvements, etc. should be processed through the prime contractor."

Answers to this question were evenly distributed between yes and no. No comments or modifications were received.

6. "A detailed quality control clause should be included by the Government in each contract that clearly delineates responsibility for subcontract quality requirements of that specific contract."

All respondees agreed that this policy would not be desirable. Less Government interference rather than more is desired by commercial firms.

7. "Present policies should be continued."

All respondees agreed that present policies are adequate and should be continued. Clarity of requirements and uniformity of application by Government representatives is desired.

Question #8: This question was designed to allow each respondee to list any procedures he felt the Government should consider for adoption. The tone of all responses was the same. A more efficient application of existing policies was the only desire listed by the respondees.

The general response received on this questionnaire was that present policies are adequate, clarity of requirements needs improvement, less, rather than more Government control of subcontractors is desired, misunderstandings as to requirements occur quite often when prime contractor QARs delegate quality contract requirements to QARs at subcontractor plants, and break down in communications between QARs presents the biggest problem for the contractor.

MIL-STD-CCC (USAF) Analysis

The US Air Force has presently completed a draft Military Standard designed to specify more detailed requirements of subcontractor quality control programs. MIL-STD-CCC(USAF), Military Standard Subcontract Quality Control Program Requirements. This document has not been approved for use and is currently being reviewed by DoD and industry for applicability and suitability. It is the intent of the US Air Force to use this document in addition to MIL-Q-9858 as a means of more clearly defining relationships between all parties on subcontracts issued by a contractor. The Aerospace Industries Association of America, Inc. has reviewed this document and has made

several suggested changes. It is not the intent of the author to review or critique this proposed standard, but rather to extract from the Aerospace Industries Association of America, Inc.'s review of the document those aspects that indicate dissatisfaction with current policies by Industry.

Of particular interest is the position taken by the member companies that the document is redundant and does not expand on MIL-Q-9858 enough to justify publication.

The first major difference of opinion noted in the review was the feeling on the part of the AIA that there is a privity relationship between the Government and the subcontractor if the Government takes any direct action with the subcontractor.

The second major difference of opinion occurred on the extent of supplier rating by the prime contractor. The Air Force took the position that a supplier should be rated on each type of product he produced and the AIA felt that a single rating for a supplier was sufficient.

The third difference of opinion occurred in the extent of detail required on purchase documentation. The AIA appears to feel that general documents may serve this purpose while the US Air Force took the position that it should be provided on each purchase order.

The fourth difference of opinion occurred when the US Air Force included a paragraph in the document that would have required the prime contractor to assign specific duties and requirements to the

contractor source quality control personnel. The AIA took exception to this policy because they felt it was up to the prime contractor to assign responsibilities to resident quality representatives.

The fifth difference of opinion occurred when the US Air Force attempted to establish a policy that would have required control of registered parts based on their criticality. The AIA felt that only those parts identified in the prime contract required control as registered parts.

In addition to the above major differences of opinion, the AIA eliminated several paragraphs that spelled out more detailed subcontractor control procedures than now exist. It appears from the evaluation of the AIA, that their members are basically satisfied with the current procedures and do not desire any more stringent requirements to be imposed. This feeling is in accordance with the findings of the questionnaires discussed earlier in this Chapter. Contractors desire less control, but specific requirements that are clearly understood by all parties.

Hypothesis #2 "Commercial firms have developed effective subcontractor control procedures." cannot be supported or rejected based on the information obtained. Personal opinions differ considerably on this subject. The fact that contracts are continuously completed indicates that at least marginal effectiveness is being attained.

CHAPTER VI

SUMMARY ANALYSIS AND CONCLUSIONS

General

Throughout all aspects of research for this thesis, thought provoking and unique suggestions for improvement in current policies were advanced. Numerous individuals forwarded comments on questionnaires and four individuals furnished detailed letters advancing ideas and suggestions. Telephonic follow-up with individuals who completed the original Government personnel questionnaire was accomplished as a means of clarifying points and suggestions. The interest expressed by respondees is a clear indication of the complexity of the problem of insuring adequate subcontractor quality control on Government contracts. The balance of this chapter is devoted to an analysis of the suggestions received and the conclusions that can be drawn from the total research effort. Listed below are the major suggestions received and an evaluation of each suggestion. The most popular suggestion in terms of number of times it was made is listed first and others follow in this same order.

More detail of requirements is required on Purchase/Delivery Orders between prime contractors and subcontractors. --Numerous instances of complications developing in QAR/subcontractor relationships were cited due to the failure of the prime contractor to definitize quality control requirements when an order was placed with a subcontractor. Subsequent delegation of the Government quality aspects of contract administration to a QAR located at the subcontractor plant resulted in more stringent requirements being placed on the delegation than had been placed on the order. This action resulted in the subcontractor failing to meet Government requirements even though he had complied with the requirements of the prime contractor. Many of these complications can be resolved by clarification of desired actions of the cognizant prime contractor QAR, although this procedure is time consuming and inefficient. Failure on the part of the QAR to definitize his requirements in his letter of delegation was felt to be responsible for the complications in some cases. In addition to the problem of clarity of communications expressed above, an element of time delay also presents a real problem for the subcontractor QAR.

Receipt of a Purchase/Delivery Order by a subcontractor may be accomplished on a near real time basis due to telephonic ordering, telegrams, or special delivery mail. Unfortunately, the letter of delegation to the cognizant contract administration office of the subcontractor plant may travel through two or more headquarters elements

enroute to its destination. As a consequence, the subcontractor may have the required item prepared for shipment to the prime contractor prior to receipt of the delegation by the subcontractor QAR. If the Purchase/Delivery Order has not expressed Government quality requirements, an impasse has resulted and costly delays have occurred. An additional complication can exist if the Government delegation cites a Specification or Drawing Number without expressing specfic characteristics that should be inspected. The prime contractor may well have received the Specification cited in the prime contract, determined that an item previously manufactured by the subcontractor meets the requirements of the Specification, and has ordered the item from the subcontractor by part number. If this has occurred and the QAR at the subcontractor plant has received a delegation citing the Specification Number, the confusion that exists cannot be easily resolved.

There is little doubt that any policy that allows confusion to exist through conflicts and interpretations should be changed and improved. Whether the complications that result are caused by the Government or the contractors is not the important issue. Clarity of requirements is the desired goal of all participating elements and any changes that could result in this outcome should be evaluated. Some suggested procedures designed to achieve the desired outcome are listed below:

1. Require all Purchase/Delivery Orders to include the

Government contract number of the prime contract.

2. Require the QAR at the prime contractor facility to review Purchase/Delivery Orders prior to issuance to the subcontractor by the prime contractor.

3. Require prime contractors to list on Purchase/Delivery Orders those expected Government quality assurance actions at the subcontractor plant.

4. Furnish copies of a Government contract delegation/inspection request to the subcontractor with the Purchase/Delivery Order.

5. Prime contractor QARs should place all Purchase/Delivery Orders into three categories and take actions based on the category assigned as follows:

a. Category #1: Little or no Government evaluation required at subcontractor plant. The QAR should require the prime contractor to certify compliance with contractual provisions in this case.

b. Category #2: A small number of major characteristics require evaluation, test, or inspection at the subcontractor facility. A QAR or a QAA from the prime contractor facility should travel to the subcontractor plant to conduct the quality assurance effort. No delegation to another QAR would occur.

c. Category #3: A major quality assurance effort is

required at the subcontractor plant. Full inspection and acceptance at source should be delegated to the appropriate contract administration agency.

6. The Government should withdraw totally from all subcontractor plants unless acceptance at the subcontractor plant or shipment directly to the using agency by the subcontractor is accomplished. Prime contractors should certify compliance with contractual requirements.

7. Present policies are adequate, implementation is not adequately accomplished. The Government should provide more manpower resources to accomplish actions in accordance with current policies.

The above comments verify that a change in policy that would clarify requirements is desired by operating personnel. In accordance with current DoD procurement philosophy, the contractor is responsible for controlling quality and the Government is responsible for assuring quality. As a means of clarifying requirements while retaining the basic DoD procurement philosophy, proposed changes to MIL-I-45208 and MIL-Q-9858 are included in Chapter VII.

Purchasing Contracting Officers (PCOs) should be more reluctant to accept requested waivers on non-conforming material produced by subcontractors. --Operating personnel expressed a general feeling that PCOs accept and approve waivers on non-conforming material

when they should not do so. If a prime contractor can reasonbly expect a request for waiver to be approved, he will not pressure his subcontractors to meet contractual quality requirements. A conflict between production oriented personnel and quality oriented personnel appears to exist in this case. If Government production personnel are unwilling or unable to accept delivery delays caused by rejection of non-conforming material, the QAR is placed in a position of having his authority and responsibility usurped. Although the QAR is instrumental in determining the adequacy of material if it is non-conforming, the pressures for delivery are such that the QAR normally must justify his refusal to accept the material, rather than being allowed to consider all implications that could result from acceptance. Usability of the material is not the only variable that the QAR should consider, reasons for the non-conformity and the actions on the part of the contractor to preclude a reoccurence must be considered. The fact that the item will accomplish its desired purpose does not relieve the contractor of his responsibility to meet all contractual requirements. Establishment of undesirable precedents occur if lenient waiver procedures are utilized.

If it is the desire of the Government to require contractors to meet all contractual requirements, PCOs must be willing to enforce these requirements regardless of possible time delays. Prime contractors will enforce quality requirements on subcontractors only when the requirements are enforced on them by the Government. Current

policies in this area are adequate, enforcement of, and compliance with, these policies will alleviate this problem.

Clarification of Government rights in regard to corrective action in subcontractor plants would be desirable. --Under current procedures, a QAR in a subcontractor plant can easily accomplish corrective action on defective material. He normally has received an official delegation from the prime contractor QAR requesting inspection of material. If defective material is being produced, the prime contractor is aware that it will be rejected upon receipt at his plant and costly delays will occur. If a prime contractor receives notification that a subcontractor is producing defective material, he will take immediate action with the subcontractor to correct the situation.

Material is not the problem; problems occur when the provisions of MIL-I-45208 or MIL-A-9858 have been invoked in the prime contract and have been passed on to the subcontractor. Under these circumstances, the subcontractor is contractually required to establish written procedures and programs to insure adequate quality control and the Government is required to assure the adequacy of this quality control. Problems develop in this area when a subcontractor is shipping an acceptable product to a prime contractor facility but has not complied with procedure development requirements. If Government acceptance is at source or at a destination other than the prime contractor facility, the threat of withdrawal of inspection and acceptance is sufficient to obtain compliance. If the product is shipped to the prime

contractor facility and incorporated into an end item prior to Government acceptance, a means to insure compliance is lacking if the prime contractor does not enforce the contract requirements on the subcontractor. Technically, the QAR could stop shipment of the item to the prime contractor, however, a question of legal relationships exists. The basic prime contractor to subcontractor relationship could be infringed upon in this action and resultant claims might be forthcoming. Corrective action taken through the prime contractor is time consuming and may be difficult if the contractor is uncooperative. Minimum conformance with requirements could be obtained, but the intent of the requirement will not be met. Procedures for the sake of procedures do not accomplish any useful purpose, only create additional administrative requirements. As was noted in Chapter V, this problem has been recognized by industry as well. Listed below are suggested solutions to this problem:

1. Allow the QAR at the prime contractor plant to withdraw inspection and acceptance of the end product until procedural requirements had been met by all subcontractors that had been given the requirements.

2. The Government should never require a prime contractor to pass a MIL-I-45208 or MIL-Q-9858 requirement down to a subcontractor. The level of quality control required in the subcontractor plant should be determined by the prime contractor.

3. It should be contractually established that the Government reserves the right to stop shipment from the subcontractor facility until all quality requirements are met.

4. The Government should rely only on physical inspection of characteristics to determine the adequacy of the subcontractor's quality control program.

An evaluation of the above suggestions and previous experience in this area has led the author to the opinion that MIL-I-45208 and MIL-Q-9858 should be required of a subcontractor only when the Government is prepared to accomplish test, inspection, and acceptance of the item at the source plant. If the Government is not prepared to accomplish this, the prime contractor should be prepared to establish the procedures desired of the subcontractor, to furnish the QAR with notification of the procedures that are being established, to include the procedures as a part of his quality program or system, and expect corrective action to be taken against him if he is not in compliance with his program or system. Recommended changes to current policies designed to accomplish this change are included in Chapter VII.

A handbook should be developed for issuance to contractors explaining in detail the Government quality assurance function. --This suggestion was based on a feeling that many of the problems between subcontractors and QARs are a result of lack of understanding of what is expected by the QAR. If a better understanding of Government

requirements on delegations can be attained, mutual gains can be expected. One possible means of accomplishing this would be detailed checklists, however, development of a checklist with enough flexibility to allow for use in a variety of situations would be difficult. Checklists could be developed to fit very general situations, however, the provisions of Handbooks H-50, H-51, and H-57 appear to be adequate to serve this purpose. Additional expenditure of resources for the purpose of developing the suggested documents does not appear to be justified.

Contracts should be carefully reviewed to insure that the proper quality requirements have been established. --Use of a more stringent quality requirement than is necessary to obtain desired quality levels is certainly not efficient. If a specific quality requirement such as MIL-I-45208 or MIL-Q-9858 is not necessary, application of these provisions expends limited DoD resources that could be more efficiently utilized to manage those contracts that require detailed quality assurance actions.

Violations of the basic intent of these documents through improper assignment can only lead to a deterioration of effort on valid requirements. Emphasis should be given to this area through training and Command emphasis.

Each subcontractor facility should be treated as a Product Control Center that is a basic part of the Procurement Quality Assurance Program (PQAP) being applied at the prime contractor facility. --

A Product Control Center is a designated portion of a plant where the Government conducts all aspects of a PQAP. An example of this would be a product line that produces only generators in a facility that produces engines through the use of multiple production lines. Application of this concept to subcontracts facilities would be possible, however, it would be very difficult unless the subcontract required continuous production over a lengthy period of time. It would be infeasible on a one time purchase or subcontract. Investigation of this possibility as a means of improving relationships on continuing contracts would appear to indicate a reasonable degree of anticipated success. DoD wide application of this policy does not appear feasible.

Government quality assurance manpower should be increased. -- The feasibility of the above suggestion is obvious, however, limited resources because of budgetary restrictions will not allow adoption of this suggestion.

Conclusions

A review of all suggestions and comments as well as the provisions of Section XIV, ASPR indicates that once a subcontract is delegated for support administration or Government source inspection, procurement quality assurance becomes identical to that required on the prime contract. The ASPR does not recognize the fact that the QAR at the subcontractor plant has no authority for his actions if there is no acceptance of product. Current ASPR provisions do not recognize

a situation whereby total Government quality assurance actions can be taken at a subcontractor plant, even though the implied wording of the ASPR is that such an action could be taken. Clarification of this point is desired and necessary. Changes proposed in Chapter VII provide this clarification.

Hypothesis #3 "Modification of current DoD policies by incorporation of more stringent subcontractor quality control requirements will increase the effectiveness of the Government quality assurance program." is supported by the analysis and evaluation included in Chapters IV, V, and VI of this thesis. Proposed changes included in Chapter VII will provide more stringent requirements. Increased effectiveness of the Government quality assurance program is expected to result if the proposed changes are implemented.

CHAPTER VII

RECOMMENDATIONS

ASPR Change

Paragraph 14.407.2 of the ASPR presently reads as follows:

> Conditions Government procurement quality assurance actions at the subcontract level shall be performed when:
>
> (i) the item is to be shipped from the subcontractor's plant to the using activity;
>
> (ii) the conditions for inspection at source established in 14.305.2(a) or (b) are applicable; or
>
> (iii) the contract specifies that certain inspection is to be made by the Government, and such inspection can be performed only at the subcontractor's plant.
>
> (1:1416)

It is recommended that a subparagraph (iv) be added to read as follows:

> (iv) the contract has specified a specific quality control clause in the form of 7.104.28 or 7.104.33 and this requirement has been passed on to the subcontractor by the contractor.

Paragraph 14.407.3 of the ASPR presently reads as follows:

> Selective Evaluation at the Subcontract Level. Selective evaluation of the contractor's control of his subcontractors may be requested by the contract administration office responsible for the contract in order to provide that office with additional assurance that supplies and services being received from subcontractors conform to quality requirements. Communications between contract administration offices concerning procurement quality assurance actions to be performed are through Government channels. Requests

for selective evaluation shall indicate Government procurement quality actions to be performed, e.g., specific characteristics, processes and procedures to be verified, tests to be witnessed, and records, reports, and certificates to be evaluated. (1:1417)

It is recommended that the following two sentences be added to the paragraph.

Government request communications shall be made available to the contractor. The contract administration office responsible for the contract may accomplish this evaluation at the subcontractor plant utilizing organic personnel if desired.

MIL-Q-9858 Change

Paragraph 5.2 of MIL-Q-9858 is quoted below. The underlined sentences are recommended additions of the author and do not appear in the document as presently written.

5.2 Purchasing Data. The contractor's quality program shall not be acceptable to the Government unless the contractor requires of his subcontractors a quality effort achieving control of the quality of the services and supplies which they provide. If the provisions of ASPR 14.407.2(iv) apply, the contractor shall assure that appropriate program development has been accomplished at the subcontractor plant prior to acceptance of any services or supplies. The contractor shall assure that all applicable requirements are properly included or referenced in all purchase orders for products ultimately to apply on a Government contract. The Government contract number shall be included. The purchase order shall contain a complete description of the supplies ordered including, by statement or reference, all applicable requirements for manufacturing, inspecting, testing, packaging, and any requirements for Government or contractor inspections, qualification or approvals. Technical requirements of the following nature must be included by statement or reference as a part of the required clear description: all pertinent drawings, engineering change orders, specifications (including inspection system or quality program requirements), reliability, safety, weight, or other special requirements, unusual test or inspection procedures

or equipment and any special revision or model identification. The description of products ordered shall include a requirement for contractor inspection at the subcontractor or vendor source when such action is necessary to assure that the contractor's quality program effectively implements the contractor's responsibility for complete assurance of product quality. Requirements shall be included for chemical and physical testing and recording in connection with the purchase of raw materials by his suppliers. The purchase order must also contain a requirement for such suppliers to notify and obtain approval from the contractor of changes in design of the products. Necessary instructions should be provided when provision is made for direct shipment from the subcontractor to Government activities. (4:5)

MIL-I-45208 Change

Paragraph 3.13 of MIL-I-45208 presently reads as follows:

3.13 Government Evaluation. The contractor's inspection system and supplies generated by the system shall be subject to evaluation and verification inspection by the Government representative to determine its effectiveness in supporting the quality requirements established in the detail specifications, drawings and contract and as prescribed herein. (3:5)

Recommend the following sentence be added:

If the provisions of ASPR 14.407.2(iv) apply, the contractor shall assure that appropriate system development has been accomplished by the subcontractor prior to acceptance of any supplies.

Implementation

It is recommended that further study be conducted to determine the economic and legal feasibility of the above recommended changes prior to implementation.

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APPENDIX A

DOD PERSONNEL QUESTIONNAIRE

AFIT/SLGR (SLSR-34-72B/Maj Dondlinger)
Autovon 787-7011

Evaluation of Subcontractor Quality Control Questionnaire

1. The attached questionnaire has been developed by Major Jerome C. Dondlinger, US Army, as a means of developing data for his thesis entitled "An Evaluation of DoD Policies for Quality Assurance for Subcontractors." This thesis is being prepared in conjunction with his attendance at the School of Systems and Logistics, Air Force Institute of Technology, Air University. The purpose of Major Dondlinger's research is to determine if a more effective method of subcontractor quality control can be developed. Headquarters USAF Survey Control Number 72-91 has been assigned to this questionnaire.

2. The questionnaire enclosed is being used to test the opinions of selected DoD quality control/assurance personnel in regard to the effectiveness of current policies of the DoD. No attempt will be made to identify the individuals responding to this questionnaire, so you need not complete the personal information requested in Question #8 unless you specifically desire to do so. Your cooperation is solicited in completion of the first seven questions and return of the questionnaire to Major Dondlinger in the enclosed self-addressed envelope. It is requested that the questionnaire be returned within one week of receipt.

3. Your contribution to this research study will be appreciated and should measurably contribute to the requirements of Air Force sponsored research.

FOR THE COMMANDANT

JAMES L. QUINN, Lt Colonel, USAF
Chief, Graduate Education Division
School of Systems and Logistics

2 Atch
1. Questionnaire
2. Return Envelope

SUBJECT: An Evaluation of Subcontractor Quality Control Procedures

TO: Chief, Quality Control

1. In my present duty assignment as a student in the Graduate Logistics Management program of the Air Force Institute of Technology, I have undertaken a detailed study of subcontractor quality control programs as they relate to DoD contract administration requirements. My experience in contract administration of the quality assurance aspects of DoD contracts while serving with DCASD, Birmingham, indicated that improved techniques of DoD monitorship of subcontractor quality control programs would increase the over-all effectiveness of the DoD quality effort.

2. If you can spare a few moments of your time to give me the benefit of your experience in this area by completing the enclosed questionnaire and returning it to me, it would be greatly appreciated. The ultimate goal of my study is to develop a proposed ASPR clause that could be included in DoD contracts when extensive subcontracts will be let and the quality effort will be complex and extensive. As a means of insuring development of all feasible thoughts and ideas of experienced quality personnel, I have excluded from consideration the impact of current ASPR provisions, questions of privity of contract, the possibility of increased contract costs, and increased personnel requirements on any procedure that I may develop.

3. Your suggestions and thoughts may remain anonymous if your desires are such, or if you desire to discuss the subject with me in more detail, you may complete the information requested in the last question of the questionnaire and I will contact you at a later date.

Encl: Questionnaire

JEROME C. DONDLINGER
MAJOR US ARMY

AN EVALUATION OF SUBCONTRACTOR QUALITY CONTROL

Please complete the following questions by placing a check in the appropriate answer block.

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1. I have the following number of years experience in quality control or assurance work:

DoD	Civilian
____ Less than 5 yrs	____ Less than 5 yrs
____ 5-10 yrs	____ 5-10 yrs
____ Over 10 yrs	____ Over 10 yrs

2. I believe that total prime contractor control of subcontractor quality programs provides DoD with:

___ Unsatisfactory Quality

____ Marginal Quality

____ Satisfactory Quality

3. I believe that DoD Handbooks H-50, H-51, and H-57 (or comparable service documents) used in conjunction with applicable contract quality requirements provide the necessary tools for DoD personnel to insure adequate quality of products and/or services accepted from prime contractors:

____ No

____ Marginal

____ Yes

COMMENT: _____

_____

4. I would like to see a policy established that would allow DoD personnel to take positive action directly with a subcontractor to insure that his quality control program is effective:

_____ No

_____ Yes

_____ Yes (Modified as below)

My suggested modification is: _____

_____

_____

_____

5. I believe that DoD quality personnel would be more effective in their duties if they could accomplish the following at a subcontractor plant:

_____ Procedures Review

_____ Procedures Evaluation

_____ Product Verification Inspection

_____ Contractor Decision Verification

_____ Corrective Action

_____ The prime contractor should be totally responsible.

_____ A modified procedure should be established.

My suggested modification is: _____

_____

_____

_____

6. Corrective Action by DoD personnel at a subcontractor plant should be allowed as follows:

____ Method A

____ Method B

____ Method C

____ Method D

7. I would like to see a policy established by the DoD that would allow DoD personnel to cease acceptance of products from prime contractors solely because one of their subcontractors did not have an effective quality control program:

____ No

____ Yes

____ Yes (With Modification)

My suggested modification Is: _____

_____

_____

_____

8. Listed below is my name, mailing address, and Autovon telephone number, I would like to discuss subcontractor quality control with you in more detail:

NAME _____

MAILING ADDRESS _____

_____

_____

_____

AUTOVON TELEPHONE NUMBER _____

APPENDIX B

COMMERCIAL QUESTIONNAIRE

Sir:

For some time I have been concerned about the effectiveness of Government policies for insuring adequate quality control by subcontractors on Department of Defense contracts. I am presently attending the School of Systems and Logistics, Air Force Institute of Technology, The Air University and am pursuing an advanced degree in Logistics Management. In partial fulfillment of the requirements for this degree, I am preparing a thesis entitled "An Evaluation of Government Subcontractor Quality Control Procedures."

As a means of gathering data for my thesis project, I am soliciting the assistance of knowledgeable quality control personnel in the private sector of the economy. If you could assist me in this effort by completing the enclosed questionnaire and returning it to me, I would appreciate it greatly.

Under the "Academic Freedom" policy of the Air University, I have elected to present my data without using the names or titles of any individual who furnishes me with information. Consequently, any information that you provide on the questionnaire will be strictly confidential. Additionally, I am not considering current Armed Services Procurement Regulation provisions, questions of privity of contract, and possible increased contract costs to be constraints in the development of the optimum policy that the Department of Defense should pursue in their relationship with subcontractors.

If you do not desire to participate in this research, return of the questionnaire in an uncompleted state will notify me of this fact. Conversely, if you would desire to discuss this subject with me in more detail, provide me with your name and mailing address, and I will contact you further.

Any assistance that you can provide me in this matter will be appreciated.

Encl: Questionnaire

Sincerely yours,

Jerome C. Dondlinger
Major, US Army

AN EVALUATION OF GOVERNMENT SUBCONTRACTOR QUALITY CONTROL PROCEDURES

Please complete this questionnaire by placing a check in the appropriate answer block. Your comments are invited in the space provided below each question.

****

1. Current Government policies that place total responsibility on prime contractors for subcontractor quality control are:

   ____ Unfair.

   ____ Fair only if the Government representative is cooperative.

   ____ Fair.

   Comment: _____

   _____

   _____

2. My firm's quality control effort as pertains to subcontractors on commercial procurements as opposed to Government procurements is:

   ____ Less extensive.

   ____ About the same.

   ____ More extensive.

   Comment: _____

   _____

   _____

3. Government requirements for quality control of subcontractors under the provisions of MIL-I-45208 and MIL-Q-9858 are:

____ Too restrictive.

____ About right.

____ Unclear (not restrictive enough).

Comment: _____

_____

_____

4. The presence of Government representatives in subcontractor plants in an advisory capacity to the prin.e contractor would affect the prime contractor's quality effort by:

____ Hampering it.

____ Not affecting it.

____ Assisting it.

Comment: _____

_____

_____

5. The presence of Government representatives in subcontractor plants with the authority to take the same corrective action that they are authorized in the prime contractor plant would affect the prime Contractor's quality effort by:

____ Hampering it.

____ Not affecting it.

____ Assist it.

Comment: _____

_____

6. Development of a procedure that would place the Government in a legal position to reject or accept the quality aspects of subcontractor produced items at the subcontractor plant prior to shipment to the prime contractor facility would be:

____ Useful.

____ Marginally acceptable.

____ Infeasible.

Comment: _____

_____

_____

7. Implementation of the following policies by the Government on their contracts would enhance the over-all effectiveness of the quality control effort on subcontracts and would be to the benefit of both the prime contractor and the Government in terms of improved quality of products:

____ The Government should not impose any requirements on prime contractors as concerned with subcontractor quality control.

____ The prime contractor should be allowed to impose any quality requirement on a subcontractor that they desire without Government restriction.

____ Subcontractors should be held responsible for the quality of their products by the Government. The prime contractor should not be responsible.

____ In view of the fact that the Government approves subcontractors prior to award of the prime contract, Government inspection and acceptance should be at the subcontractor plant.

____ The quality control program of the subcontractor should be monitored by Government personnel on a continuous basis, but change requirements, improvements, etc. should be processed through the prime contractor.

____ A detailed quality control clause should be included by the Government in each contract that clearly delineates responsibility for subcontract quality control requirements of that specific contract.

____ Present policies should be continued.

Comment: _____

_____

_____

8. Our firm has established the following policies that the Government should consider in development of a more effective method of insuring acceptable quality control by subcontractors:

Please list: _____

_____

_____

_____

_____

_____

_____